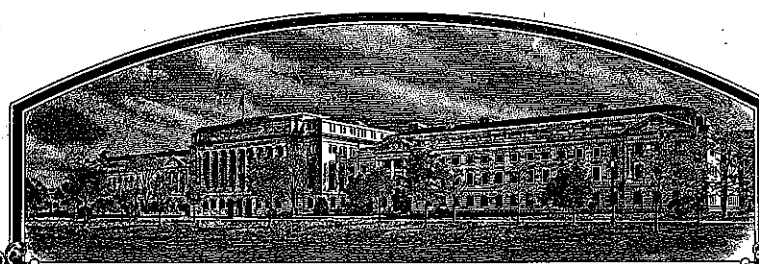


No.

200800322



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Syngenta Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THEREOF IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'AP503 CL2'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this ninth day of December, in the year two thousand and eight.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture



**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Syngenta Seeds, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER CL03040-5-2	3. VARIETY NAME AP503 CL2
4. ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) 6515 Ascher Road Junction City, Kansas 66441		5. TELEPHONE (include area code) 785-210-0218	<div style="border: 1px solid black; padding: 5px;"> FOR OFFICIAL USE ONLY PVPO NUMBER <div style="font-size: 24pt; font-weight: bold;">#200800322</div> </div>
6. FAX (include area code) 785-210-0231		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM ORGANIZATION (corporation, partnership, association, etc.) Corporation	
8. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		9. DATE OF INCORPORATION <div style="font-size: 24pt; font-weight: bold;">July 14, 2008</div>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Dr. Rollin Sears 6515 Ascher Road Junction City, Kansas 66441 <div style="text-align: right; margin-top: 10px;"> Copy to: Chris Bruns PO Box 30 Berthoud, CO 80513 <u>crbruns@LPBroadband.net</u> </div>			<div style="border: 1px solid black; padding: 5px;"> FILING AND EXAMINATION FEES: <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">F E E S R E C E I V E D</div> <div> \$ 4382.00 DATE 7/14/2008 CERTIFICATION FEE: \$ 768.00 DATE 10/6/08 </div> </div> </div>
11. TELEPHONE (include area code) 785-210-0218	12. FAX (include area code) 785-210-0231	13. E-MAIL rollin.sears@agripro.com	
14. CROP KIND (Common Name) Hard Red Winter Wheat	16. FAMILY NAME (Botanical) Gramineae	18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Triticum aestivum	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.	
SIGNATURE OF OWNER 		SIGNATURE OF OWNER 	
NAME (Please print or type) Dr. Rollin Sears		NAME (Please print or type) 	
CAPACITY OR TITLE R&D Manager	DATE <div style="font-size: 24pt; font-weight: bold;">7/08/08</div>	CAPACITY OR TITLE 	DATE

(See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

None

The variety 'AP503 CL2' will be constituted from Breeder seed, and proceed through Foundation, Registered and Certified in succeeding generations. Generations which may be multiplied will be limited to Breeder seed, Foundation, Registered and Certified.

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Registered seed stocks of AP503 CL2 will be available in the Fall of 2008.

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).) The line/variety referenced herein possesses imidazolinone herbicide tolerance conferred by proprietary trait protected by the following Patents

US Patent #	issued	filed	assignee	US Patent #	issued	filed	assignee
5,731,180	3/24/1998	7/31/1998	AMCY	6,222,100	4/24/2001	9/18/1992	MGI Pharma, Inc.
6,211,438	4/3/2001	9/18/1992	MGI Pharma, Inc.	6,339,184	1/15/2002	3/25/1994	BASF
6,211,439	4/3/2001	6/5/1995	MGI Pharma, Inc.	7,034,208	4/25/2006	6/7/1995	BASF

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A.
Origin and Breeding History of 'AP503 CL2'

AP503 CL2 was derived from the selection CL03040-5-2 which is a cross between iW98-362A1 (Als3) / AP502 CL (Als1) made in the spring of 2003. iW98-362A1 is a mutation line derived from Jagalene (W98-362) which carries the mutation for resistance to the Beyond herbicide from the gene Als 3-653. AP502 CL is a variety and carries the mutation for resistance to the Beyond herbicide from the gene Als1-653. The purpose of the cross was to combine the two Clearfield resistance genes, Als1 & Als3 into a common genetic background. CL03040-5-2 was grown as an F1 in the summer of 2003 in Junction City, KS(JCKS). F2 seedlings were sprayed with 18oz Beyond in the fall/winter 2003-2004 and resistant plants grown to seed. F3 seedlings were sprayed with 18oz in the spring of 2004 and resistant plants grown for seed. F4 seedlings were sprayed with 18oz Beyond in the late summer 2004. Resistant seedlings were potted and grown to seed during the winter in Berthoud, CO. F5 seed was harvested in February 2005 and planted in the field as F5 plant plots in March 2005 near Berthoud, CO. In July 2005 F5 plots were selected based upon vigor, phenotype equal to Jagalene and stripe rust tolerance. 245 individual plant plots were selected. F6 seed from 90 selections were planted in replicated yield trials at Salina, Goodland and JCKS in the fall 2005. Disease and observation single rows were planted at an additional 6 locations in the central plains. Samples of each selection were sprayed as seedlings with 24oz Beyond in the greenhouse to test for lines homozygous for both Als genes. CL03040-5-2 was identified as being homozygous for both Als genes and was planted in replicated yield trials in Kansas, Colorado, Nebraska and Montana for the 2007 growing season. Based upon tolerance to Beyond herbicide and agronomic performance CL03040-5-2 was named AP503 CL2 and planted in Colorado in the Fall 2007 to produce Foundation and Registered seed for the summer 2008.

In 2006, five 35' progeny plots were grown as an initial Breeders seed increase in Eaton, Colorado which produced 141 pounds of seed. In 2007 an 8 acre Breeders seed increase was grown in Eaton which produced 45,272 pounds of seed.

AP503 CL2 has been uniform and stable since 2006. Less than 0.8% of the plants were rogued from the Breeder seed increase in 2007. Approximately 90% of the rogued variant plants were taller height wheat plants (8 to 15 cm), 5% were bronze chaffed and 5% of the rogued plants were awnless. Up to 1% variant plants may be encountered in subsequent generations.

200800322

August 20th, 2008

Mark A. Hermeling,
Senior Plant Variety Examiner
Plant Variety Protection Office

Dear Mr. Hermeling:

SUBJECT: Application No. 200800322 Common Wheat, 'AP503 CL2'

On July 22nd, you requested the following:

EXHIBIT A. Origin and Breeding History of the Variety:

Pedigree: Obtaining intellectual property rights requires disclosure. As part of this disclosure the applicant is to provide the public with information about his/her invention in exchange for protection of the variety. This information should specify the plant material the applicant started from, i.e., the parentage. All material in the parentage must be traceable back to varieties, lines, or clones, etc. that are publicly known or a matter of common knowledge. Please provide the name and source of the *Als3* donor parent line used to develop iW98-36A1.

Response supplied by Dr. Rollin Sears:

Seed from Jagalene (Experimental number W98-362) was treated with a mild mutagen and selfed. The selfed seed was treated with Beyond herbicide. The surviving plants carry a mutation for resistance to the herbicide. One of the surviving plants was designated iW98-362A1. This line was subjected to DNA analysis and the iW98-362A1 contains the *Als 3-653* mutation. This line is phenotypically identical to Jagalene.

Chris Bruns

Exhibit B.
Statement of Distinctness

AP503 CL2 is most similar to the hard red winter wheat 'Jagalene'. However, it can be easily distinguished by the following morphological characteristics:

- AP503 CL2 has a tapering head shape (Eaton CO 2006-2007). Jagalene has a strap head shape (Eaton CO 2006-2007).
- AP503 CL2 has a narrow glume width (Eaton CO 2006-2007). Jagalene has a medium glume width (Eaton CO 2006-2007).
- AP503 CL2 has a medium glume length (Eaton CO 2006-2007). Jagalene has a long glume length (Eaton CO 2006-2007).

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* Spp.)

NAME OF APPLICANT(S) Syngenta Seeds, Inc.	TEMPORARY OR EXPERIMENTAL DESIGNATION CL03040-5-2	VARIETY NAME AP503 CL2
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) 6515 Ascher Road Junction City, Kansas 66441		FOR OFFICIAL USE ONLY PVPO NUMBER #200800322

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., or) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:		2. VERNALIZATION:	
<input type="text" value="1"/>	1=Common 2=Durum 3=Club 4=Other (specify) _____	<input type="text" value="2"/>	1=Spring 2=Winter 3=Other (specify) _____
3. COLEOPTILE ANTHOCYANIN:		4. JUVENILE PLANT GROWTH:	
<input type="text" value="1"/>	1=Absent 2=Present	<input type="text" value="2"/>	1=Prostrate 2=Semi-erect 3=Erect
5. PLANT COLOR (boot stage):		6. FLAG LEAF (boot stage):	
<input type="text" value="3"/>	1 = Yellow-Green 2 = Green 3 = Blue-Green	<input type="text" value="1"/>	1 = Erect 2 = Recurved
		<input type="text" value="2"/>	1 = Not Twisted 2 = Twisted
		<input type="text" value="2"/>	1 = Wax Absent 2 = Wax Present
7. EAR EMERGENCE:			
<input type="text" value="1"/> <input type="text" value="3"/> <input type="text" value="6"/>	Number of Days (Average)		
<input type="text" value="0"/> <input type="text" value="2"/>	Number of Days Earlier Than * <u>Jagalene</u>		
<input type="text" value="0"/> <input type="text" value="0"/>	Same As *		
	Number of Days Later Than *		
*Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial			
8. ANTER COLOR:			
<input type="text" value="1"/>	1 = YELLOW 2 = PURPLE		

9. PLANT HEIGHT: (from soil to top of head, excluding awns):

#200800322

0 7 6 cm (Average)

0 0 cm Taller Than

0 2 Same As

0 2 cm Shorter Than

* _____

* _____

* Jagalene

10. STEM:

A. ANTHOCYANIN

1 1 = Absent 2 = Present

B. WAXY BLOOM

2 1 = Absent 2 = Present

C. HAIRINESS (last internode of rachis)

2 1 = Absent 2 = Present

D. INTERNODE

1 1 = Hollow 2 = Semi-solid 3 = Solid

5 Number of Nodes

E. PEDUNCLE

1 1 = Erect 2 = Recurved

1 3 cm Length

F. AURICLE

2 Anthocyanin 1 = Absent 2 = Present

2 Hair: 1 = Absent 2 = Present

11. HEAD: (At Maturity)

A. DENSITY

2 1 = Lax
2 = Middense (Laxidense)
3 = Dense

B. SHAPE

1 1 = Tapering
2 = Clavate
3 = Strap
4 = Other (specify) _____

C. CURVATURE

2 1 = Erect
2 = Inclined
3 = Recurved

D. AWNEDNESS

4 1 = Awnless
2 = Apically awnletted
3 = Awnletted
4 = Awned

12. GLUMES: (At Maturity)

A. COLOR

1 1 = White
2 = Tan
3 = Other (specify) _____

B. SHOULDER

2 1 = Wanting 2 = Oblique
3 = Rounded 4 = Square
5 = Elevated 6 = Apiculate
7 = Other (Specify) _____

C. SHOULDER WIDTH

2 1 = Narrow
2 = Medium
3 = Wide

D. BEAK

3 1 = Obtuse
2 = Acute
3 = Acuminate

E. BEAK WIDTH

2 1 = Narrow
2 = Medium
3 = Wide

F. GLUME LENGTH

2 1 = Short (ca. 7mm)
2 = Medium (ca. 8mm)
3 = Long (ca. 9mm)

G. WIDTH

1 1 = Narrow (ca. 3mm)
2 = Medium (ca. 3.5mm)
3 = Long (ca. 4mm)

13. SEED:

A. SHAPE

- 1 = Ovate
2 = Oval
3 = Elliptical

B. CHEEK

- 1=Rounded
2=Angular

C. BRUSH

- 1 = Short
2 = Medium
3 = Long

D. CREASE

- 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

- 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. COLOR

- 1 = White
2 = Amber
3 = Red
4 = Other (Specify) _____

F. TEXTURE

- 1 = Hard
2 = Soft
3 = Other (Specify) _____

G. PHENOL REACTION (See Instructions)

- 1 = Ivory
2 = Fawn
3 = Light Brown
4 = Dark Brown
5 = Black

H. SEED WEIGHT

g/1000 Seed (Whole number only)

I. GERM SIZE

- 1 = Small
2 = Midsized
3 = Large

14. DISEASE:

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

(0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

<input type="text" value="2"/>	Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>)	Field	<input type="text" value="0"/>	Leaf Rust (<i>Puccinia recondita</i> f. sp. <i>tritici</i>)	Field races
<input type="text" value="0"/>	Stripe Rust (<i>Puccinia striiformis</i>)	racess	<input type="text" value="0"/>	Loose Smut (<i>Ustilago tritici</i>)	
<input type="text" value="0"/>	Tan Spot (<i>Pyrenophora tritici-repentis</i>)		<input type="text" value="0"/>	Flag Smut (<i>Urocystis agropyri</i>)	
<input type="text" value="0"/>	Halo Spot (<i>Selenophoma donacis</i>)		<input type="text" value="0"/>	Common Bunt (<i>Tilletia tritici</i> or <i>T. laevis</i>)	
<input type="text" value="0"/>	<i>Septoria nodorum</i> (Glume Blotch)		<input type="text" value="0"/>	Dwarf Bunt (<i>Tilletia controversa</i>)	
<input type="text" value="0"/>	<i>Septoria avenae</i> (Speckled Leaf Disease)		<input type="text" value="0"/>	Karnal Bunt (<i>Tilletia indica</i>)	
<input type="text" value="0"/>	<i>Septoria tritici</i> (Speckled Leaf Blotch)		<input type="text" value="0"/>	Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>)	Field races
<input type="text" value="0"/>	Scab (<i>Fusarium</i> spp.)		<input type="text" value="0"/>	Snow Molds	
<input type="text" value="0"/>	Black Point (Kernel Smudge)		<input type="text" value="0"/>	Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.)	
<input type="text" value="0"/>	Barley Yellow Dwarf Virus (BYDV)		<input type="text" value="0"/>	Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>)	
<input type="text" value="2"/>	Soilborne Mosaic Virus (SBMV)		<input type="text" value="0"/>	Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>)	
<input type="text" value="0"/>	Wheat Yellow (Spindle Streak) Mosaic Virus		<input type="text" value="0"/>	Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>)	
<input type="text" value="0"/>	Wheat Streak Mosaic Virus (WSMV)		<input type="text" value=""/>	Other (specify) _____	
<input type="text" value=""/>	Other (specify) _____		<input type="text" value=""/>	Other (specify) _____	
<input type="text" value=""/>	Other (specify) _____		<input type="text" value=""/>	Other (specify) _____	
<input type="text" value=""/>	Other (specify) _____		<input type="text" value=""/>	Other (specify) _____	

15. INSECT:

(0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

<input type="text" value="0"/>	Hessian Fly (<i>Mayetiola destructor</i>)	<input type="text" value=""/>	Other (specify) _____
<input type="text" value="0"/>	Stem Sawfly (<i>Cephus</i> spp.)	<input type="text" value=""/>	Other (specify) _____
<input type="text" value="0"/>	Cereal Leaf Beetle (<i>Oulema melanopa</i>)	<input type="text" value=""/>	Other (specify) _____

ST-470-06 (4-03) designed by the Plant Variety Protection Office using Microsoft Word

15. INSECT: (continued)

(0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

8

#200800322

PLEASE SPECIFY BIOTYPE (where needed)

0

Russian Aphid (*Diuraphis noxia*)

☐

Other (specify)

0

Greenbug (*Schizaphis graminum*) "C"

☐

Other (specify)

0

Aphids

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

None

Exhibit D.
Additional Description of 'AP503 CL2'

AP503 CL2 (CL03040-5-2) is a hard red winter wheat bred and developed by Syngenta Seeds, Inc and its legacy companies under the AgriPro Brand. It was derived from the cross between iW98-362A1 (Als3-653) / AP502 CL (Als1-653). The purpose of the cross was to combine two Clearfield resistance genes, Als1 & Als3 into a common genetic background. AP503 CL2 is intended for grain production. AP503 CL2 contains patented traits and will be managed under a Stewardship Agreement.

AP503 CL2 is semidwarf in plant height and has white chaff at maturity. It has medium maturity and good straw strength. AP503 CL2 is resistant to Stem Rust, and Soil Borne Wheat Mosaic Virus. It contains Als-1(653) and Als-3(653) genes conferring tolerance to the BASF herbicide 'Beyond'. AP503 CL2 is adapted to the Great Plains states of Colorado, South Dakota, Nebraska, and Kansas. AP503 CL2 is most similar to the variety 'Jagalene', which is one of the parents in the cross.

Juvenile growth habit is semi-erect. Auricle anthocyanin and auricle hairs are present. Plant color at boot stage is blue green. Anther color is yellow. Flag leaf at boot stage is erect and twisted. Head shape is tapering and awned. Glume shoulder shape is oblique with an acuminate beak. Chaff color is white at maturity. Seed shape is ovate. Brush hairs on the seed are medium in length and occupy a medium area of the seed tip. Seed depth is shallow and width is narrow. Seed cheeks are rounded.

AgriPro Central Plains Hard Wheat Quality

Year-Loc	Flour/Wheat Quality				Mixogram				Baking Quality				Crumb		Comments
	Wht Prot 14%mb	Flr Prot 14%mb	Norris Hrd	Flr Yld %	Ash 14%mb	Peak Time min	Peak Ht N.U.	Tol. mm	Bake		Loaf Vol cc	Grain R	Tex R	Color R	
									Abs %	Time min					
2006 - JC	13.2	12.4	65	66.9		4.50	4.8	1083	63.5	4.40	1005	6	3	2	SS
2006 - GK	16.8	16.0	67	66.6		4.00	5.0	1365	67.5	3.70	1105	5	3	3	B
Average:	15.0	14.2	66	66.8		4.25	4.9	1224	65.5	4.05	1055	5	3	3	
JAGALENE															
2006 - JC	15.1	13.9	85	67.8		4.00	5.0	1220	66.0	3.90	995	5	3	3	
2006 - GK	15.7	14.8	72	70.3		3.50	5.0	696	66.0	3.20	1010	5	3	3	
Average:	15.4	14.4	79	69.1	69.1	3.75	5.0	958	66.0	3.55	1003	5	3	3	

Ratings: 1-2 Excellent 8-9 Unacceptable

SS=semi soft

R=High Break Flour from Quad Sr. mill

200800322

2007 Yield Data

	<u>OC-Yld</u>	<u>OC-Tw</u>	<u>WS-Yld</u>	<u>WS-Tw</u>	<u>GK-Yld</u>	<u>Avg.Yield</u>	<u>Avg.Tw</u>
AP503CL2	36	61	47	63	38	41	61.8
AP502CL	41	60	48	60	31	40	60.0
Jagalene	39	63	46	62	35	40	62.8

2006 Yield Data

	<u>JC-Yld</u>	<u>JC-TW</u>	<u>GK-Yld</u>	<u>JC-TW</u>	<u>Avg.Yield</u>	<u>Avg.Tw</u>
AP503CL2	57	58	34	61	46	59.5
AP502CL	55	58	32	61	44	59.5
Jagalene	52	59	34	63	43	61.0

Table
ExpAP3877

2007 Performance evaluation of private winter wheat varieties.
Central Agricultural Research Center. Moccasin, Montana

Variety	entry	Head Date	Plant Height	Grain Yield	Test Weight	Protein Content
	#	d of y	cm	bu/a	lbs/bu	%
Yellowstone	1	165.7	104.3	51.9	53.1	15.6
Jagalene	2	160.3	89.0	52.7	58.8	14.6
AP 502CL	3	156.3	85.7	50.2	57.0	15.7
Hawken	4	156.0	86.3	60.5	59.3	14.5
Norris	5	159.7	98.0	42.5	53.4	17.1
AP503CL2	6	158.0	89.7	50.8	56.3	15.6

OC = Otis, CO; WS = Wall, SD; GK = Goodland, KS; JC = Junction City, KS

Multiple Location Disease and Observation sites in 2006 and 2007
side by side with Jagalene and AP502 CL to confirm Agronomic and Disease profile

#200800322

Beyond Tolerance data:

2007 - 5 location average

		Treatment				
Variety	Herbicide	Fall X Rate	Rate (g ai/ha)	Crop Injury at 28 DAT (%)	Crop Injury at Greenup	Yield (bu/a)
Infinity CL	Beyond	0	0	-	-	58.6
	Beyond	1X	52.5	-	-	54.5
	Beyond	2x	105	5	-	48.9
	Beyond	2x MSO	105	19	18	42.0
AP503 CL2	Beyond	0	0	-	-	50.6
	Beyond	1x	52.5	-	-	51.6
	Beyond	2x	105	1	-	51.6
	Beyond	2x MSO	105	4	-	49.8
Quinter, KS		Ft. Pierre, SD		Goodland, KS		
Wall, SD		Berthoud, CO				

AP503 CL2 (CL03040-5-2)**Agronomics & Disease characteristics**

Barley Yellow Dwarf Virus:
 Head scab:
 Hessian Fly: susceptible
 Leaf Rust: resistant
 Stem Rust: resistant
 Stripe Rust: resistant
 Powdery Mildew: intermediate
 Septoria leaf blotch: moderately susceptible
 Tan Spot: moderately resistant
 Wheat soil borne mosaic virus: resistant
 Wheat spindle streak mosaic virus: intermediate
 Wheat streak mosaic virus: moderately susceptible

AgriPro rating Source

n/a
 n/a
 9 AgriPro
 8 AgriPro
 1 AgriPro
 5 AgriPro
 5 AgriPro
 n/a
 n/a
 1 AgriPro
 5 AgriPro
 n/a

Acid Soil Tolerance: tolerant
 Coleoptile length: n/a
 Grazing potential: n/a
 Height: medium
 Maturity: medium early
 Preharvest sprouting tolerance: good
 Milling & baking quality: average
 Protein: average
 Seed size: average
 Shattering reputation: good
 Straw strength: good
 Test Weight: good
 Winterhardiness: very good
 Yield Potential where adapted:

n/a
 n/a
 n/a
 4 AgriPro
 3 AgriPro
 n/a
 Av. AgriPro
 Av. AgriPro
 Av. AgriPro
 3 AgriPro
 4 AgriPro
 4 AgriPro
 4 AgriPro
 Excel AgriPro

Rating: 1 = best score (resistant, short, strong straw, early, etc.), 9 = worst score (susceptible, tall, weak straw, late, etc.)

Plant height & Heading date for AP503CL2 'vs' Jagalene (10 locations)

	<u>AP503CL2</u>	<u>Jagalene</u>
Plant height(cm)	76	78
Days to Heading (Jul.)	136	138

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICEEXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Syngenta Seeds, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER CL03040-5-2	3. VARIETY NAME AP503 CL2
4. ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) 6515 Ascher road Junction City, Kansas 66441	5. TELEPHONE (include area code) 785-210-0218	6. FAX (include area code) 785-210-0231
7. PVPO NUMBER #200800322		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

Please see following page.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.

Exhibit E.
Statement of the Basis of Applicant's Ownership

The variety for which Plant Variety Protection is hereby sought was developed by Dr. Rollin Sears, an employee of Syngenta Seeds, Inc. By agreement between employees and Syngenta, all rights to any invention, discovery, or development made by the employee while employed by Syngenta, were assigned to Syngenta Seeds, Inc., with no rights of any kind pertaining to 'AP503 CL2' being retained by the employees.

The variety 'AP503 CL2' was originally owned by AgriPro Seeds, Inc. as a breeding population.

In 1999, the variety 'AP503 CL2' was assigned to Advanta USA, Inc. as part of the transfer of all Variety Wheat Business assets from AgriPro Seeds, Inc. to Advanta USA, Inc.

In 2006, the variety 'AP503 CL2' was assigned to Syngenta Seeds, Inc. as part of the transfer of all Variety Wheat Business assets from Advanta USA, Inc to Syngenta Seeds, Inc.

The term AgriPro used in this document is the Brand name utilized throughout the ownership assignments listed above.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

**EXHIBIT F
DECLARATION REGARDING DEPOSIT**

NAME OF OWNER (S) Syngenta Seeds, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 6515 Ascher Road Junction City, Kansas 66441	TEMPORARY OR EXPERIMENTAL DESIGNATION CL03040-5-2 VARIETY NAME AP503 CL2
NAME OF OWNER REPRESENTATIVE (S) Dr. Rollin Sears Chris Bruns	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 6515 Ascher Road Junction City, Kansas 66441	FOR OFFICIAL USE ONLY PVPO NUMBER 200800322

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Chris Bruns
Signature

7/17/2008
Date